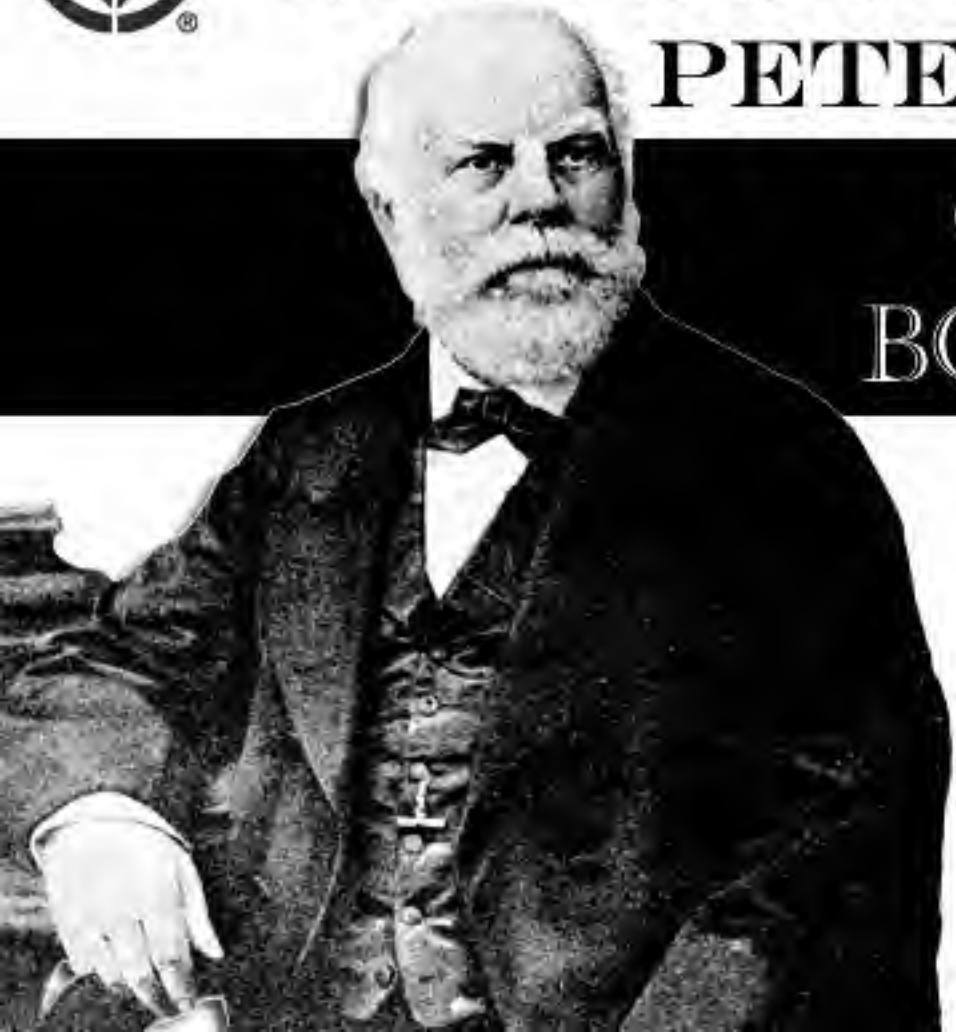




MISSOURI BOTANICAL GARDEN

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GEORGE ENGELMANN BOTANICAL NOTEBOOKS

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Dichotomus Ell. I. 406

Dichotomus Wind
Clebsch p 726
1861

118

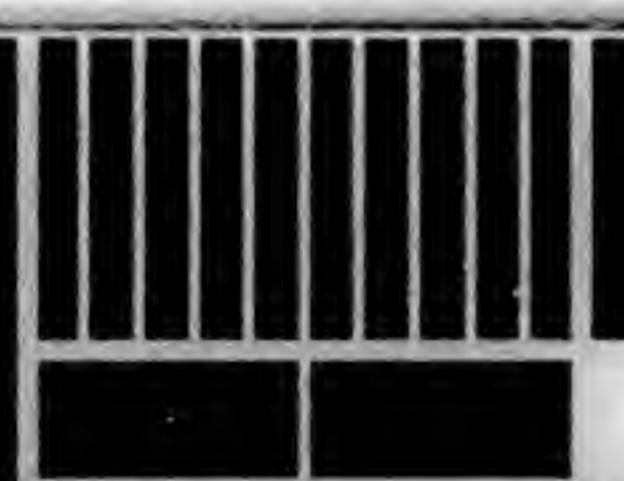
TRANS. OF THE ACAD. OF SCIENCE.

257-264

interrupted descent and ascent took place from January to December, we find in 1862 some interruptions in the steps of that ladder. The electricity in February, 1862, is about four degrees higher than that of January, April somewhat higher than March, and July is the lowest instead of September in 1861. These trifling irregularities may be accounted for by differences in temperature and relative humidity, and by a greater number of thunderstorms in 1862. January of 1862, for instance, was so unusually rainy, that its relative humidity too was unusually high, diminishing thus electricity. But the general features of distribution of electricity throughout the year are apparent in both years, and we may in that respect divide the twelve months of each year into two or three groups. Computing the months which give the highest electricity and those which give the lowest in each year, we find that in both years the months of January, February, March, April, November and December exhibit the highest, and the months of May, June, July, August, September and October the lowest electricity. The first group gives

The aggregate monthly mean of 71.5 degrees of electricity in 1861 and 74.6 " " 1862
While the second group gives 29.0 " " 1861
and 25.7 " " 1862

The second group prevail in 1861, and in 1862



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9205

WISLIZENUS—ATMOSPHERIC ELECTRICITY. 117

VI. The appearance of negative electricity was connected in

1861. No. times.	1862. No. times.	
30	32	with thunderstorms.
23	28	with rains without thunder and lightning.
20	4	with dry storms (without rain and without thunder and lightning).
4	3	with snow.
1	0	with fog.
78	67	

VII. Relation of Rain and Snow to Electricity.

Rain without thunderstorm was accompanied

	By Positive Electricity.	By Negative Electricity.	By no Electricity.
In 1861.	In 1862.	In 1861. In 1862.	In 1861. In 1862.



0
cm

1 2 3 4 5 6 7 8 9 10

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Innomin. dichotomus Ell
n. carolin

Aug 14 1863

Curtis

x60

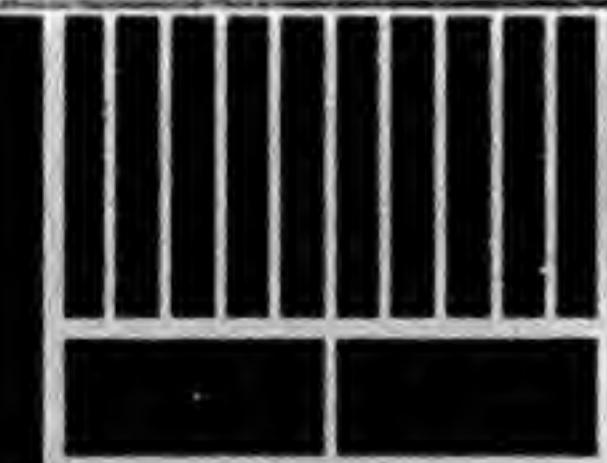


x10



I can not find the delicate striation
and thicker ^{of stem} and
darker colored,
appendage smaller

ovoid capsule
shorter than calyx!



0 1 2 3 4 5 6 7 8 9 10

cm

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GARDEN

ALEX. LEITCH,
APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

9026

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cm

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J. dichotomus Sept 23 1865
trichosporus
Beings - H. C. H. A. M. S.



0 1 2 3 4 5 6 7 8 9 10

cm

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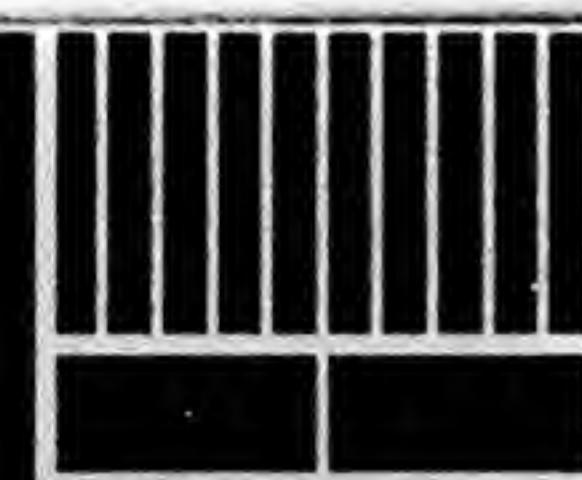
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LOC#



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cm

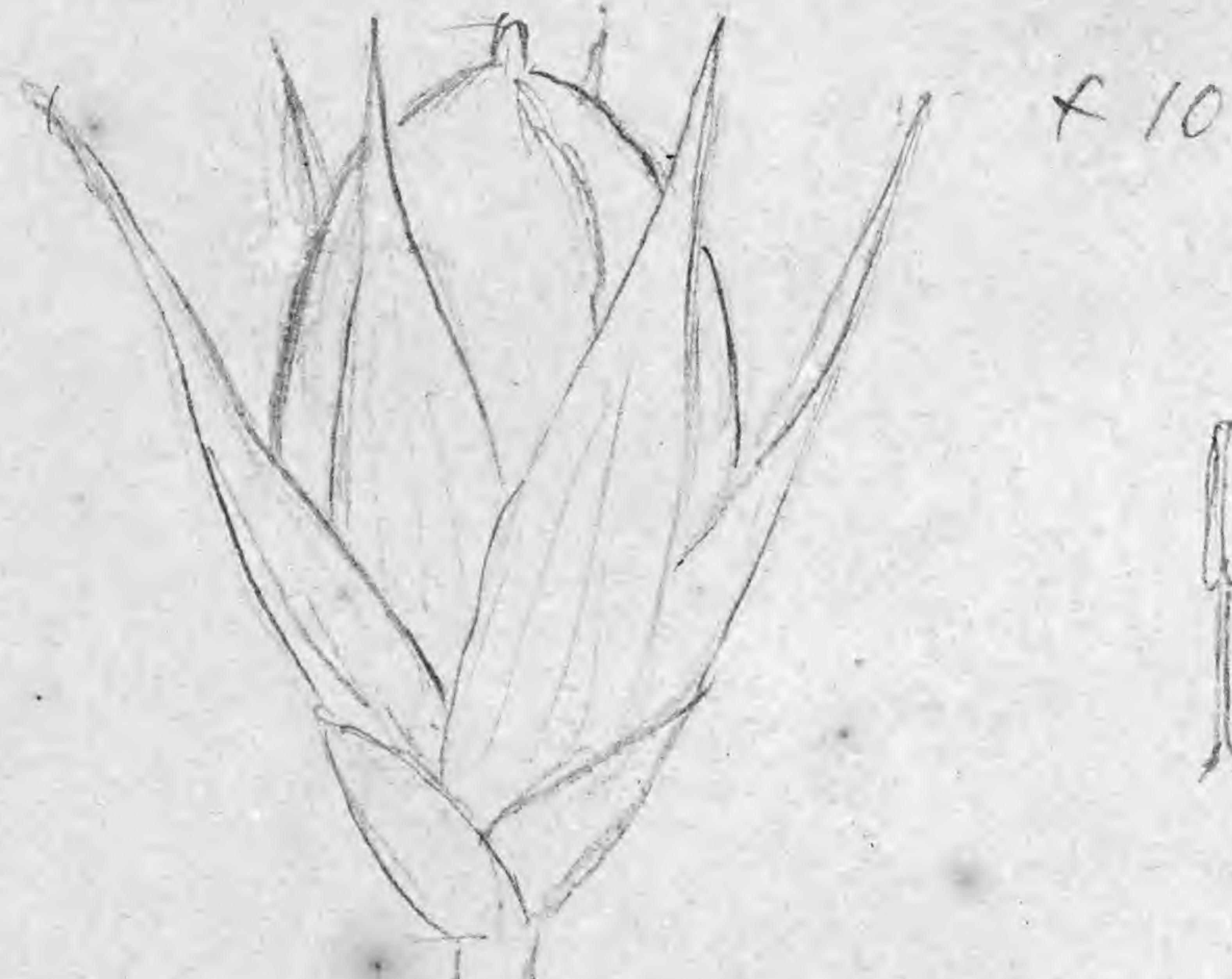
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J. Dickotom. Sept 23 1865~
Bryozoan in H. Abigail

x 6.



South Carolina Chester in H. Abigail



0 1 2 3 4 5 6 7 8 9 10

cm

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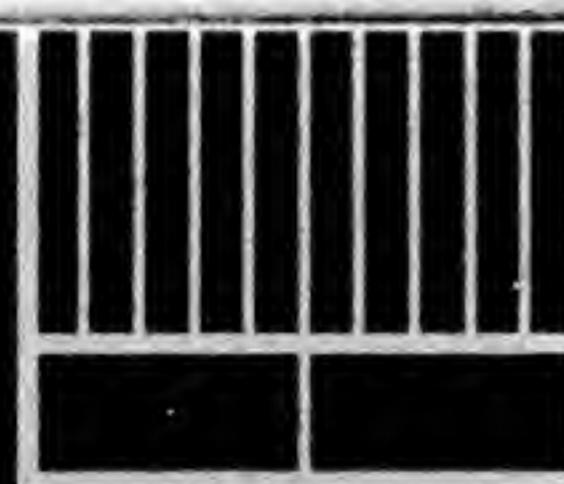


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8028



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cm

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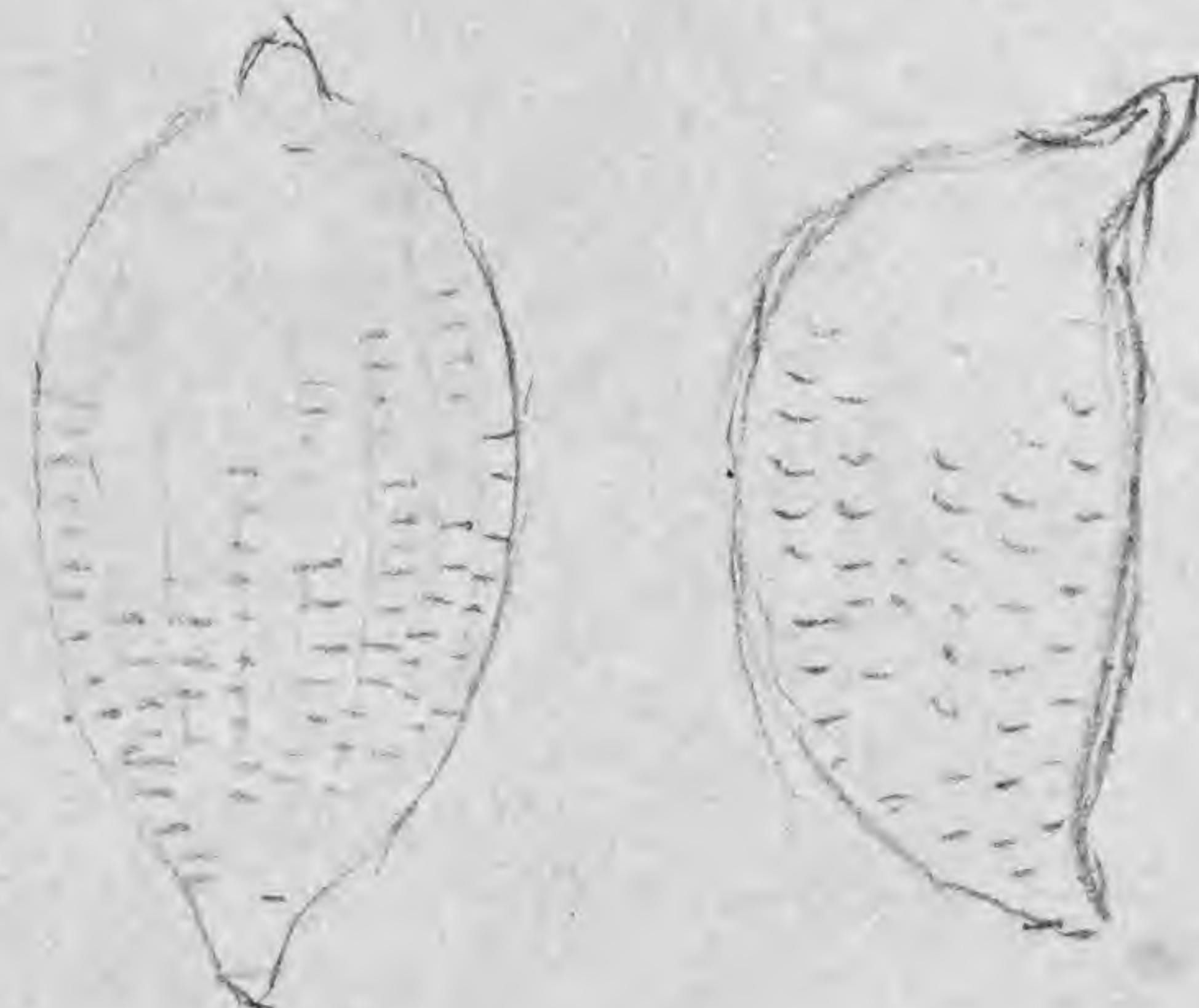
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J. dichotomum C.C.

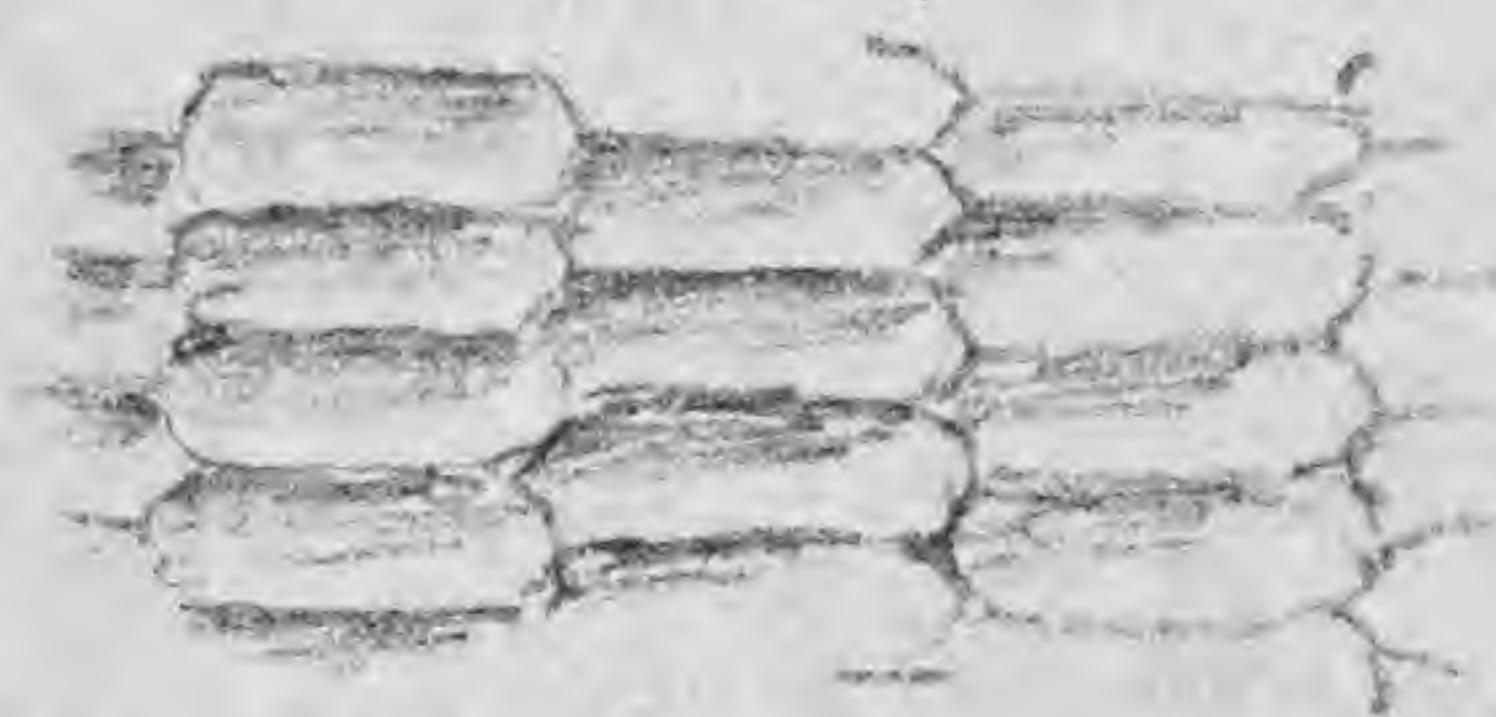
Nov 10 1865

Distr. Columbia W. S. Bebl - 116 gray
1864

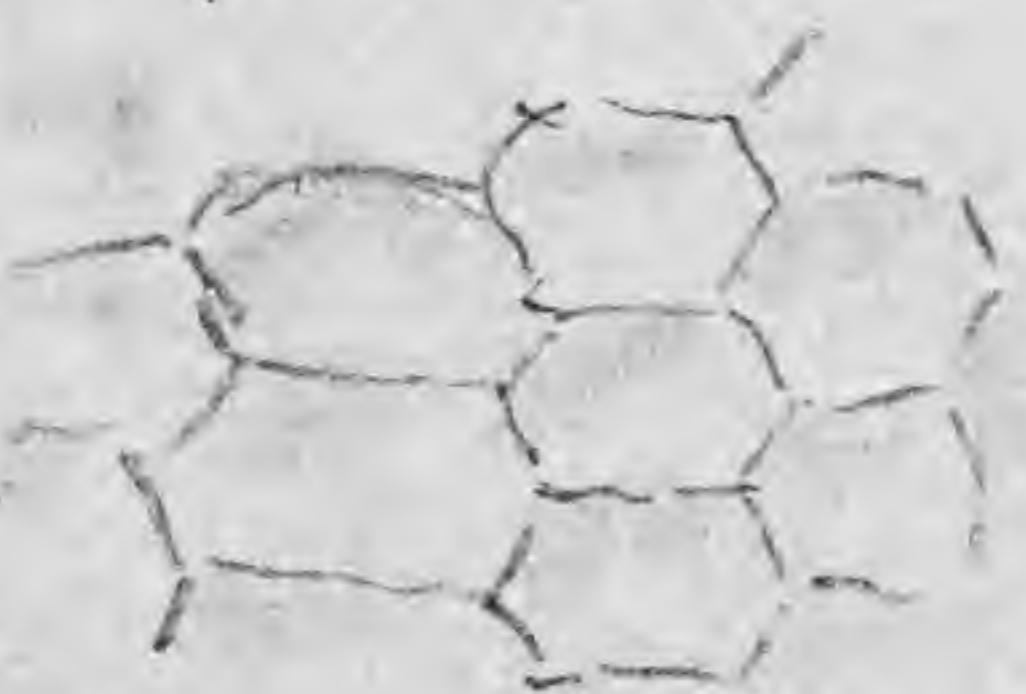
x 60



x 150



very similar to tennis
without longitudinal ribs

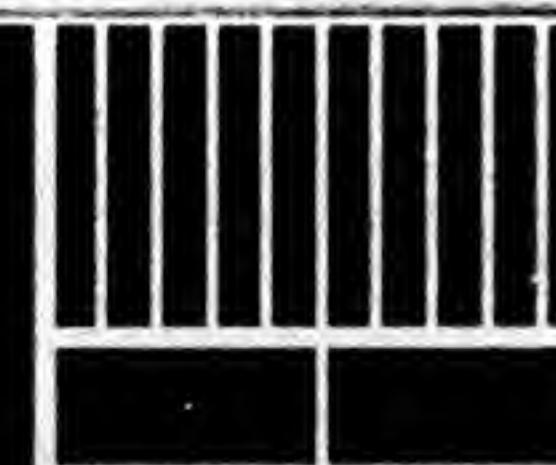


antherole

capsule ovoid - globose
obtuse not reflexed
mucoznate



seed of leaf



0 1 2 3 4 5 6 7 8 9 10

cm

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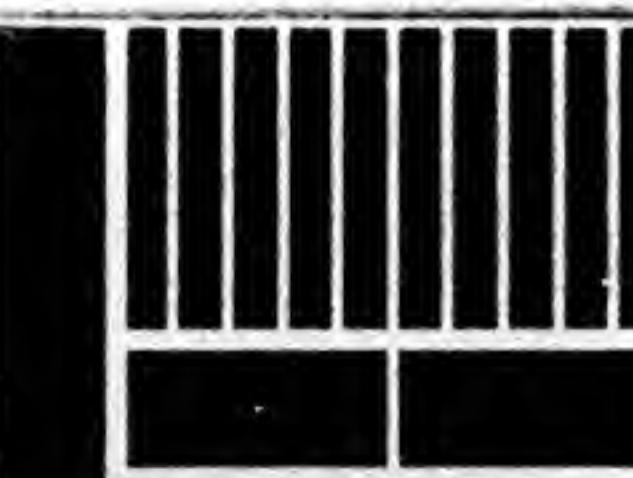


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APOTHECARY & PHARMACEUTIST,
COR. 4TH & OLIVE STS., ST. LOUIS.

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0
cm

1 2 3 4 5 6 7 8 9 10

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Lemnia dichotoma var. *inversa* July 2 1866
Is. Lady near Mouth of Delaware River

x60



single seed



part of leaf



0 1 2 3 4 5 6 7 8 9 10

cm

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ALEX. LEITCH,

MAP OF THE CITY AND CHIEF STREETS,

Marble Building, Cor. Fourth and Olive Streets,

ST. LOUIS, MO.,

0126

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0 1 2 3 4 5 6 7 8 9 10

cm

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X 10

X

Sections of leaves of
J. dichotomus

March 9 1866



extreme point

immediately
above sheath

REPRODUCED BY
WILLIAM G. MCKEE,
PHOTOGRAPHER.

SECTION OF
LEAVES OF

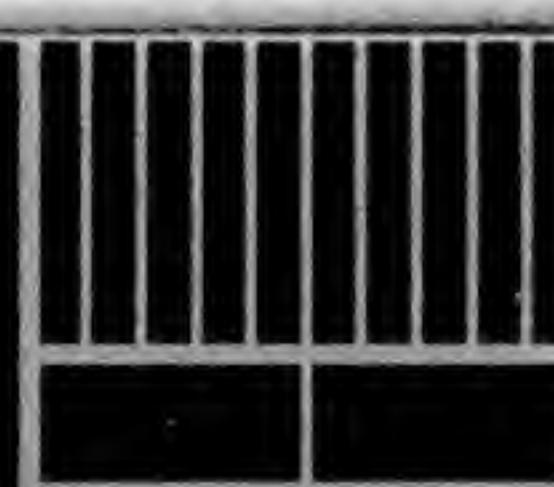
immediately above
sheath

smallest leaf
seen

Charleston
Herb. Smith

largest leaf seen

(S. Carolina?)
Boysie



0 1 2 3 4 5 6 7 8 9 10

cm

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Marble Building, Cor. Fourth and Olive Streets,

ST. LOUIS, MO.

112b

MISSOURI BOTANICAL GARDEN
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0 1 2 3 4 5 6 7 8 9 10
cm

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Tinusas dichotomus

H. Philad Gray Eugler

Washington

S. Carolina

Florida

Charleston S.C.

N. Carol

Cape of the Delaware

New Jersey

Curtis

H. Smith

Bebb Bebb

Curtis (var.)

Chapman Chapman

H. Smith

Dagnik

Curtis

Lindley

C. F. Parker



0 1 2 3 4 5 6 7 8 9 10

cm

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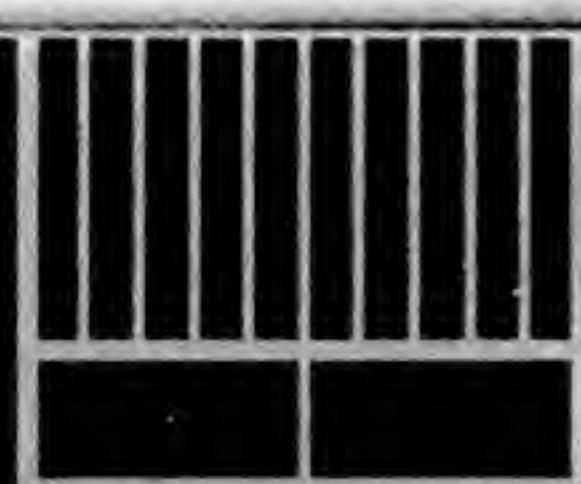
ALEX WENTZ

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COR. 4TH & OLIVE STS., ST. LOUIS.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

2126



0 1 2 3 4 5 6 7 8 9 10

cm

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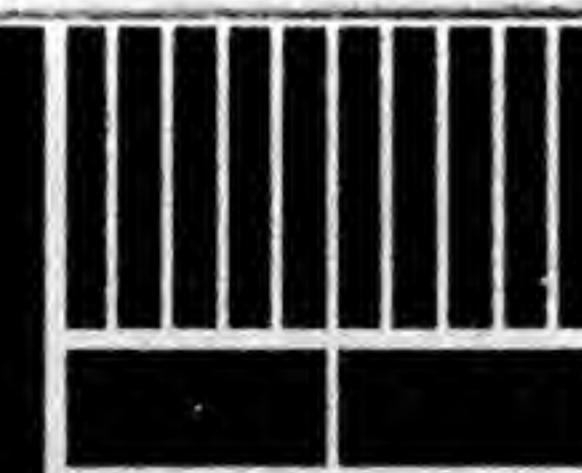


MISSOURI
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GARDEN

M. S. Babb : letter to Gray July 5 1864

I. dichotomus abundant above Washington.

Its few rigid almost terete leaves near the base of the slender terete stem, and the opposite purple mostly exceeding the involucral leaves distinguish it from *I. tenuis*. When both grow together the contrast in color of the mature plant is striking. *I. tenuis* is pale throughout, *I. dichotomus* regarding dark green; ripe pods mahogany colour.



0 1 2 3 4 5 6 7 8 9 10
cm

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MISSOURI
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GARDEN

M. W. ALEXANDER,

*South-east corner Fourth and Market Streets,
ST. LOUIS.*

E126

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



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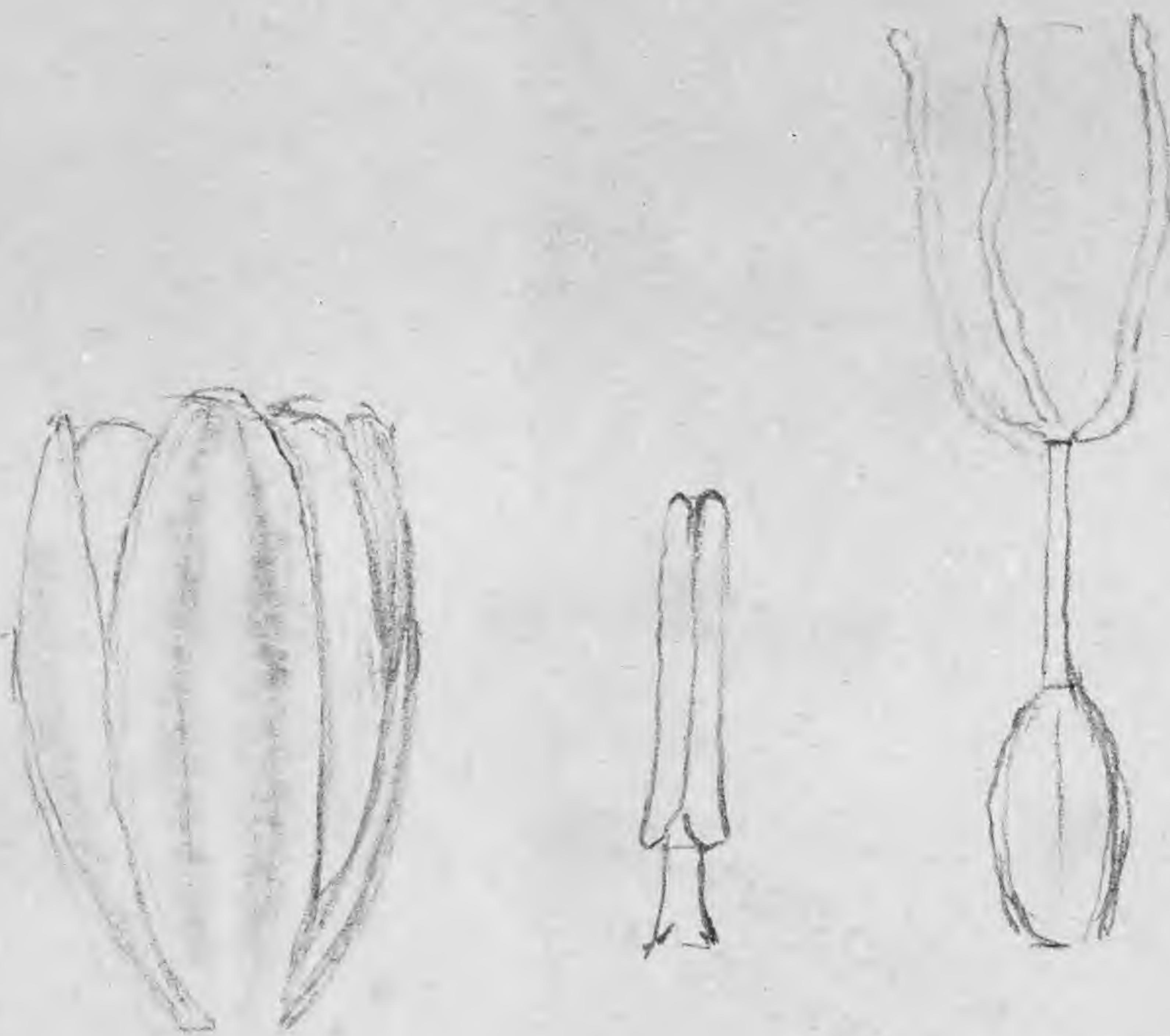


MISSOURI
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GARDEN

Inveras

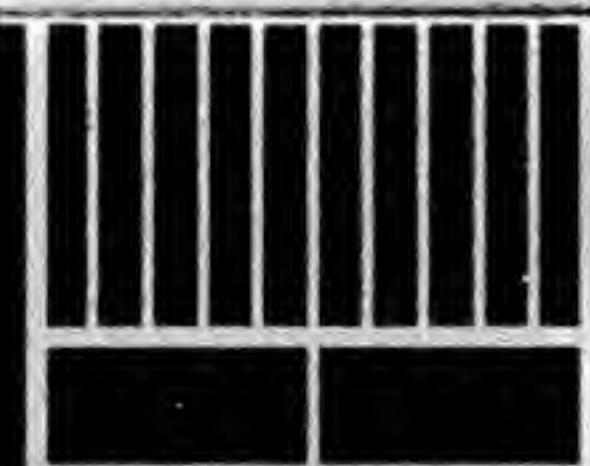
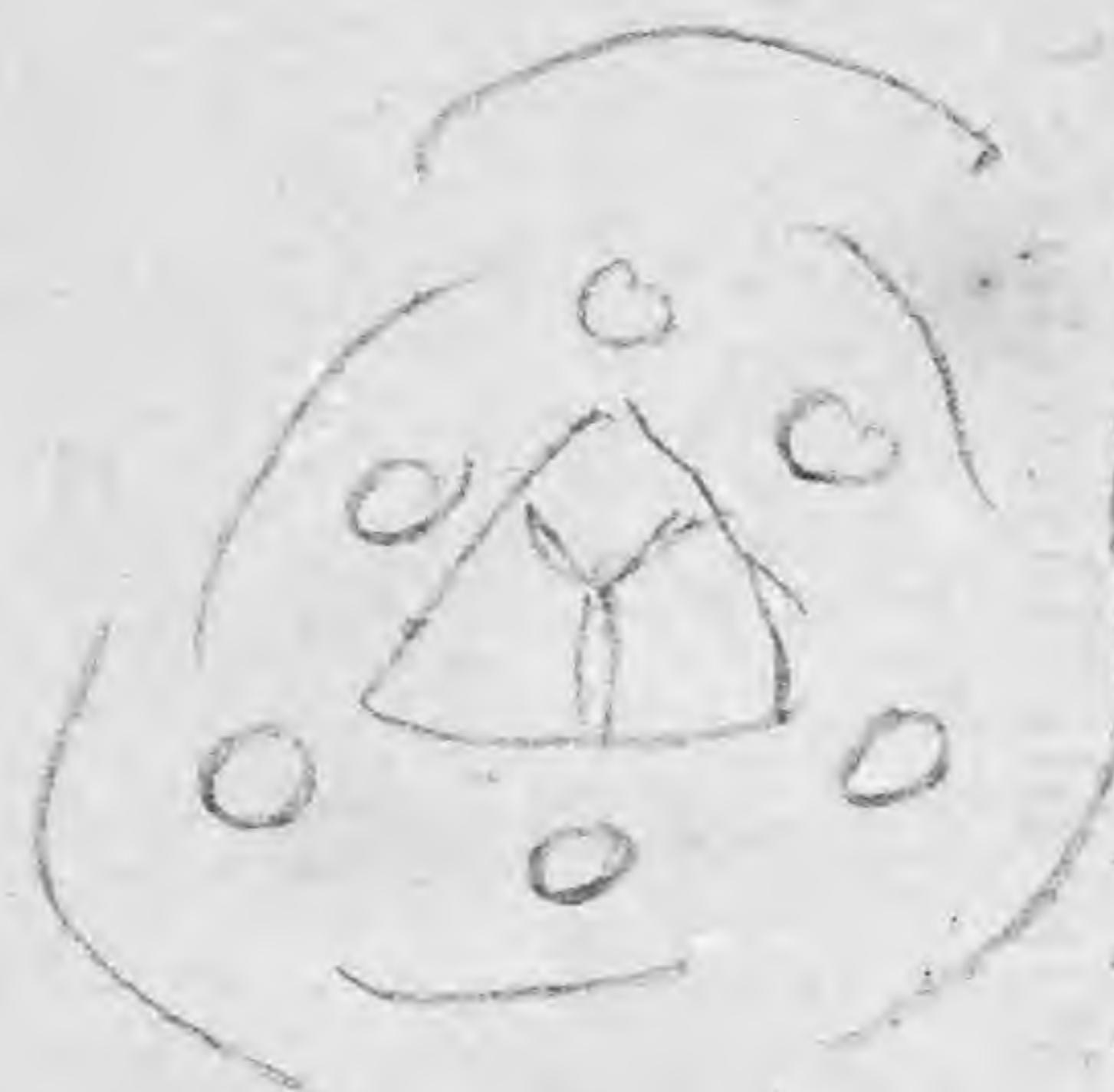
Aug 17 1865

Cassadee, N Jersey, Canby 1863



leaves alternate
equal

Chestnut brown
green streaked - mottled



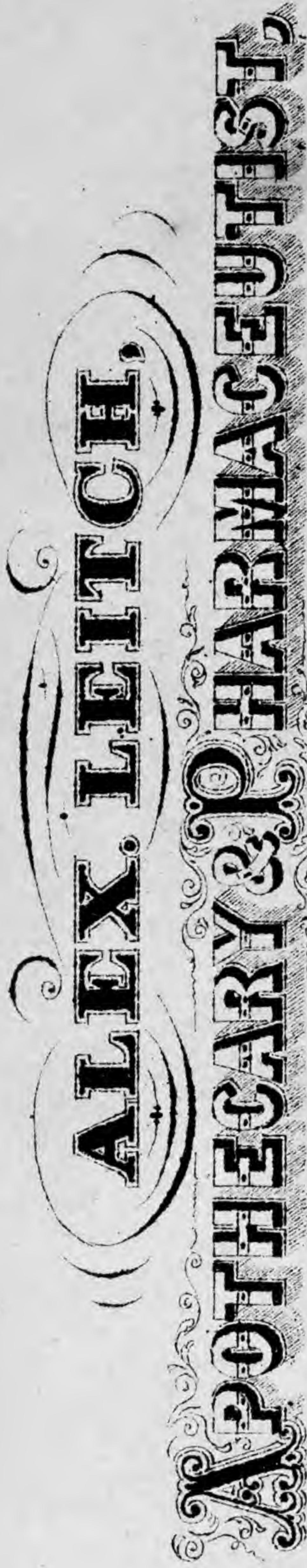
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cm

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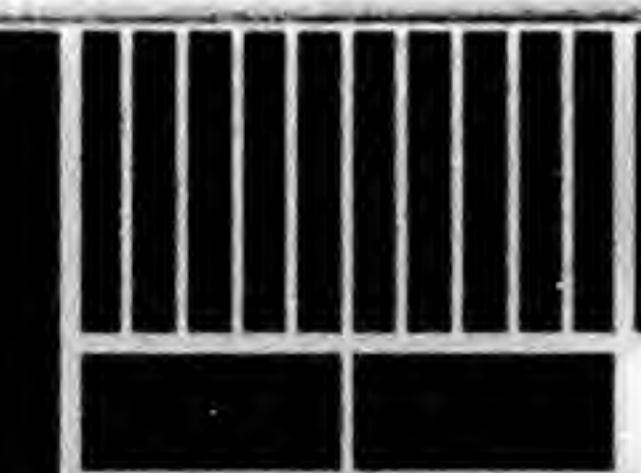


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0 1 2 3 4 5 6 7 8 9 10

cm

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J. Gerard Loit. Notic. 60
(1810)

Gothnicus Wahlenb. Lapp.
82 (1812)

Cocnosus Bicheno

118

TRANS. OF THE ACAD. OF SCIENCE.

265-769

#

interrupted descent and ascent took place from January to December, we find in 1862 some interruptions in the steps of that ladder. The electricity in February, 1862, is about four degrees higher than that of January, April somewhat higher than March, and July is the lowest instead of September in 1861. These trifling irregularities may be accounted for by differences in temperature and relative humidity, and by a greater number of thunderstorms in 1862. January of 1862, for instance, was so unusually rainy, that its relative humidity too was unusually high, diminishing thus electricity. But the general features of distribution of electricity throughout the year are apparent in both years, and we may in that respect divide the twelve months of each year into two or three groups. Computing the months which give the highest electricity and those which give the lowest in each year, we find that in both years the months of January, February, March, April, November and December exhibit the highest, and the months of May, June, July, August, September and October the lowest electricity. The first group gives

The aggregate monthly mean of 71.5 degrees of electricity in 1861
and 74.6 " " " 1862
While the second group gives 29.0 " " " 1861
and 25.7 " " " 1862

The second group prevailed therefore in 1861, and the 1st



0
cm

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WISLIZENUS.—ATMOSPHERIC ELECTRICITY. 117

VI. The appearance of negative electricity was connected in

1861.	1862.	No. times.	No. times.
30	32		with thunderstorms.
23	28		with rains without thunder and lightning.
20	4		with dry storms (without rain and without thunder and lightning).
4	3		with snow.
1	0		with fog.
78	67		

VII. Relation of Rain and Snow to Electricity.

Rain without thunderstorm was accompanied

By Positive Electricity.	By Negative Electricity.	By no Electricity.
In 1861.	In 1862.	In 1862.

January



Iurus Gerardii

Its Natives. Gray Ezrales

Salem N.York

Clinton

New Haven

Cator

Gulber mass.

Nuttall

W.S.

Beverly, Mass

Little To

Gray

Gray

Essex Co. Mass

Oakes

Oakes

Oakes

Spanish

Chicago

Visey

Florida (not Chapman!)

Ware

Ware

New Jersey

Torrey

Purdy

N. Carolina

Curtis,

Curtis

Long Island

Torrey

"Black grass" makes pretty good hay. It is not in
large quantities. Oakes is sketchy.



0 1 2 3 4 5 6 7 8 9 10

cm

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MISSOURI BOTANICAL PAPERS
GEORGE ENGELMANN

1890

SAUER & WEITZCH
APOTHECARY & PHARMACEUTIST,
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0 1 2 3 4 5 6 7 8 9 10

cm

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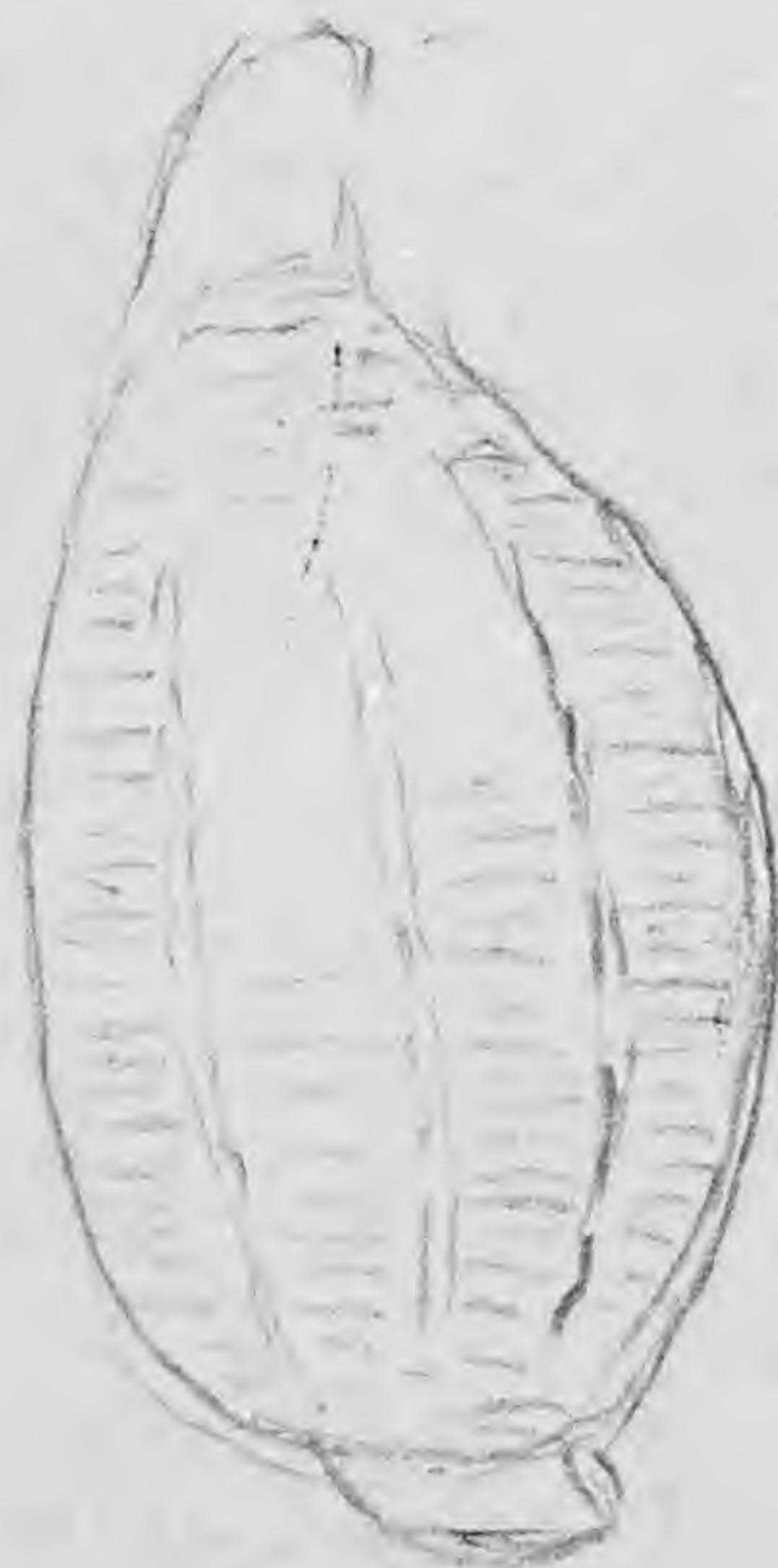


MISSOURI
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I. Gerardi Loisel
sub nom. *I. coenosus*
Mammillaria Baker

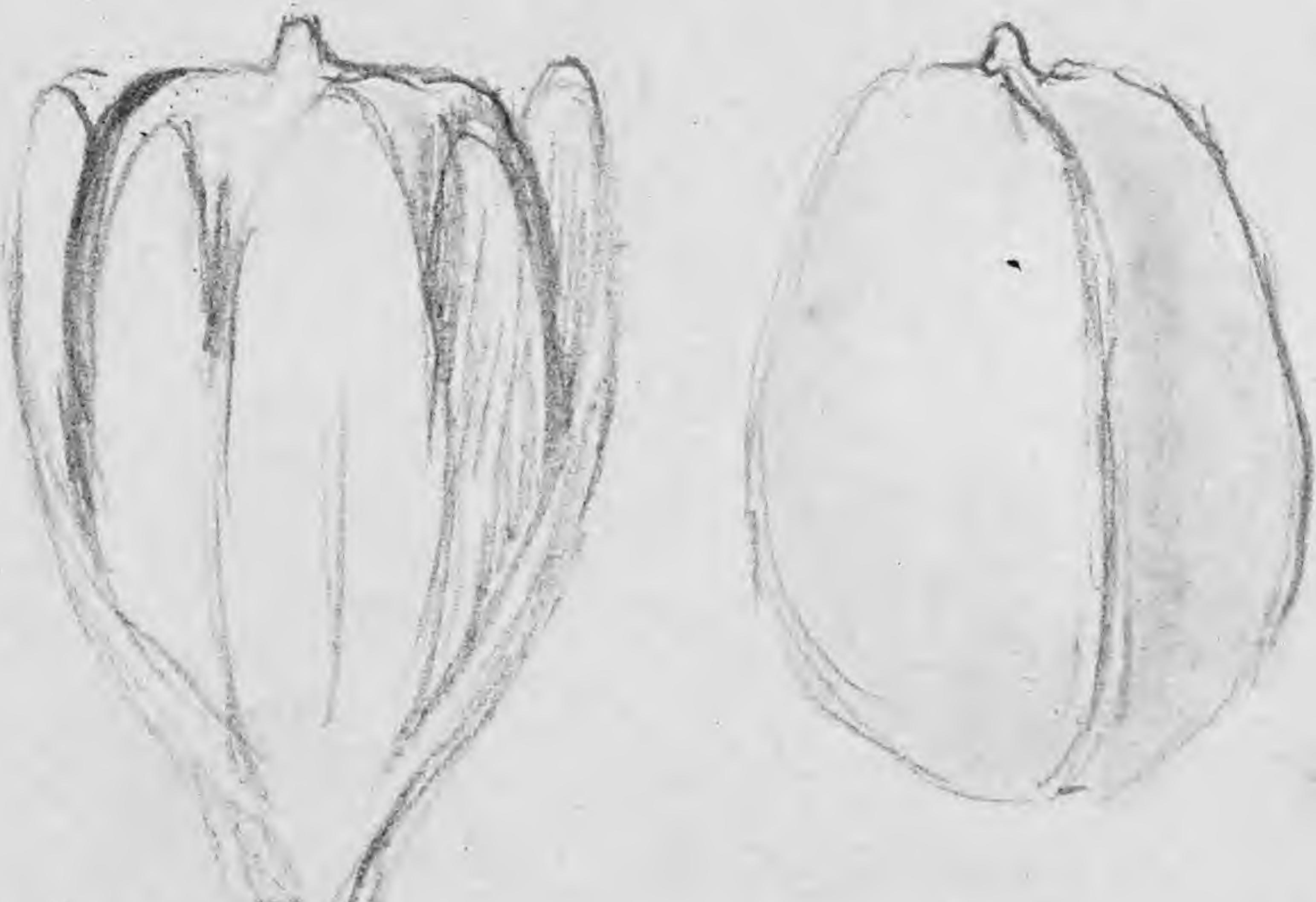
Aug 15 1865

X60

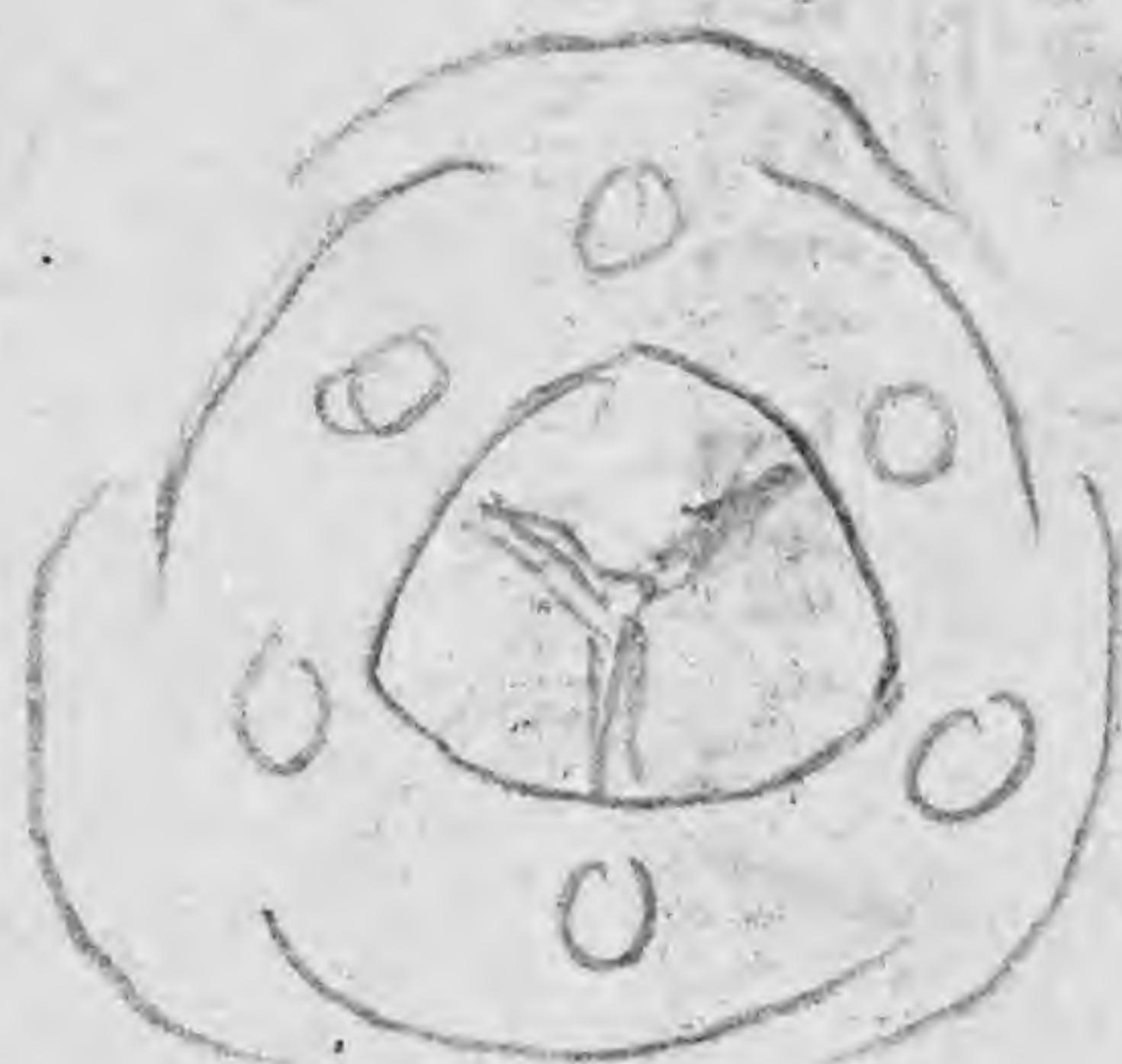


seed large, thick
with fewer ribs than
any examined,
and very distinct
cross-triulation

X10



interior sepals
a little shorter
than exterior ones.



Carls 3 Aug 65
winter compression
(New Haven Ct.)



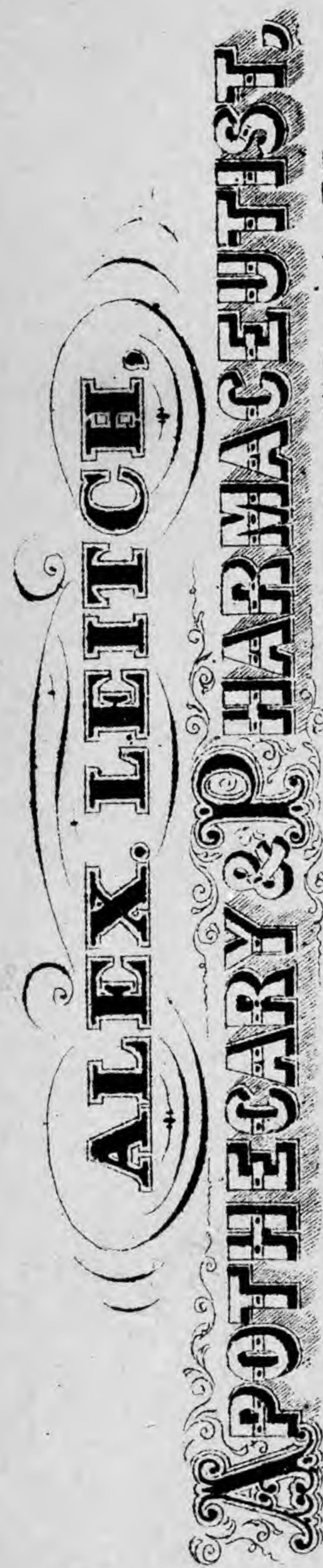
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cm

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I. Gerardi
Pennsyl. Foster - Ho Leidy

Nov 15 1865

x60



0 1 2 3 4 5 6 7 8 9 10

cm

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MISSOURI
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Litch & Cotties

C. D. & C. M. YOUNG

West Fifth
Corner and Market
South Streets

9218

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0 1 2 3 4 5 6 7 8 9 10

cm

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Innesia bottae

Aug 15 1865

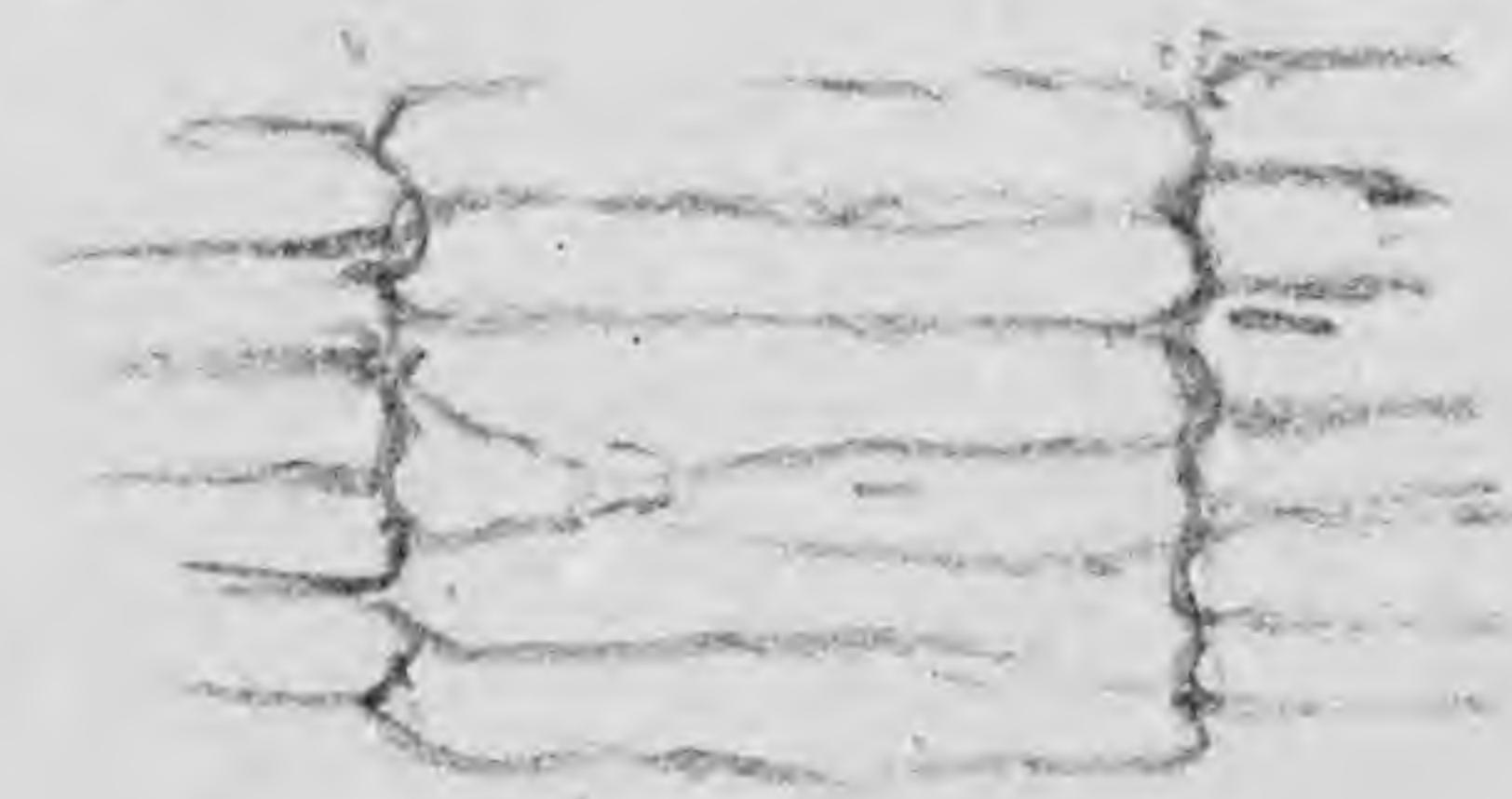
Niederw., Germany

1826

x60



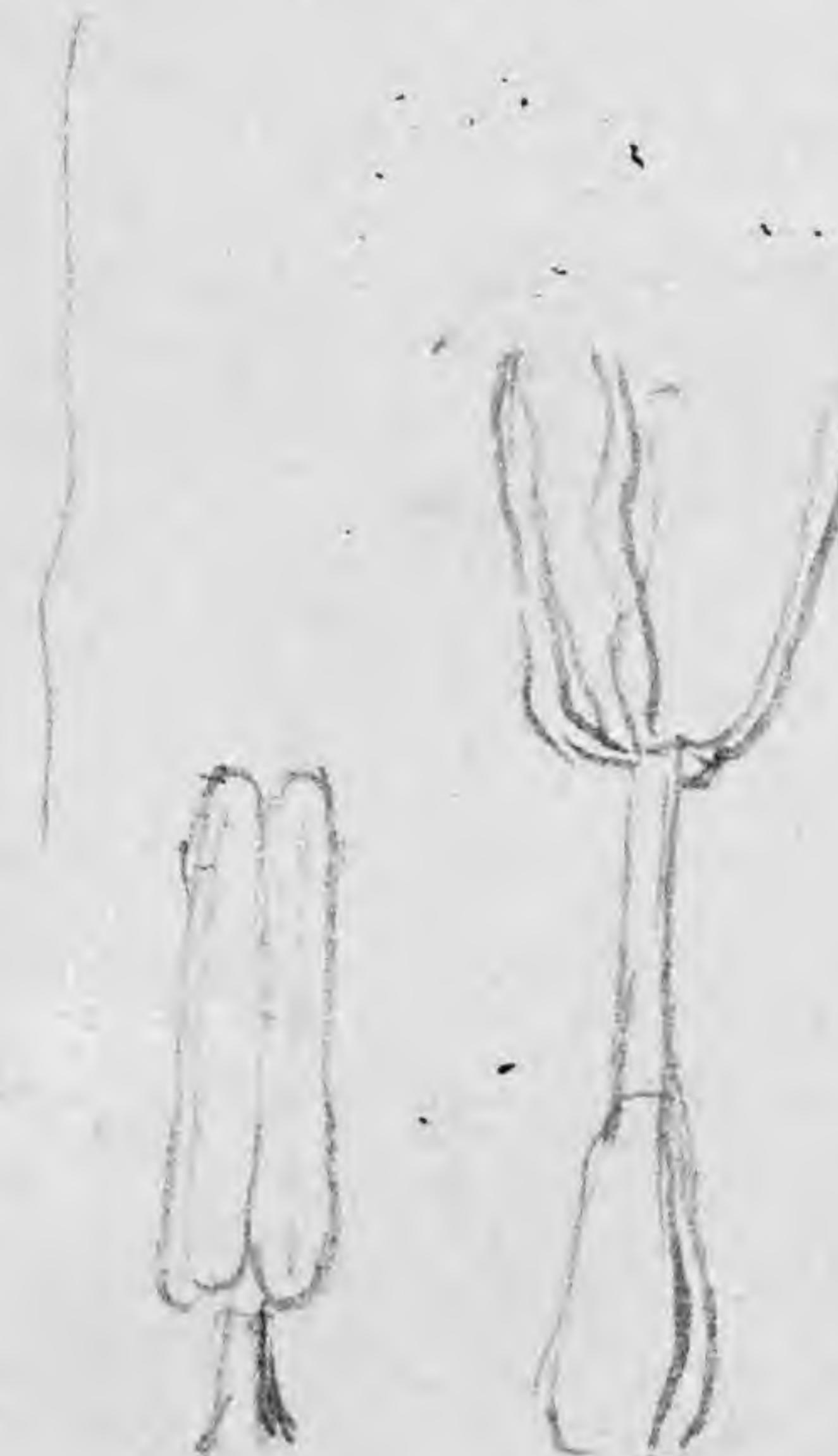
x 150



Niederw., Germany

1826

Kiel



not yet open



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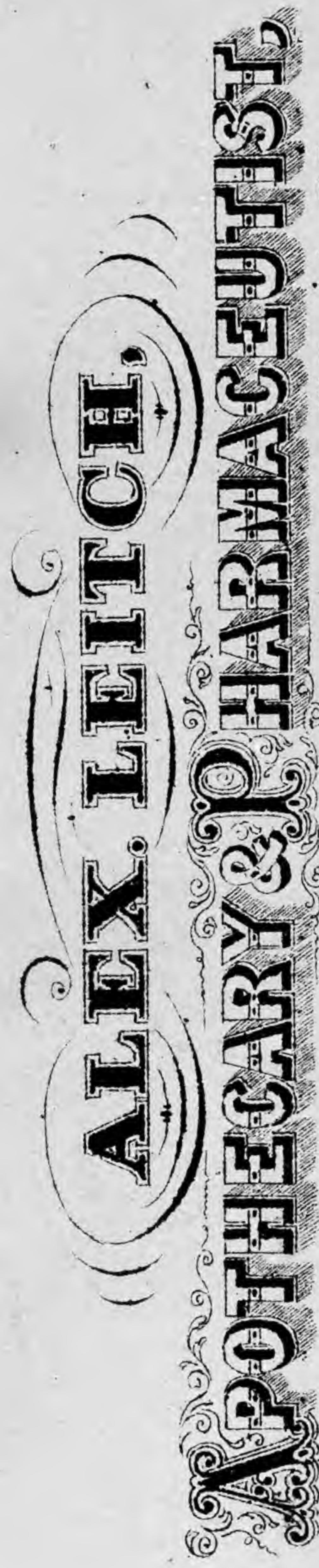
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cm

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b1c9



0 1 2 3 4 5 6 7 8 9 10

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